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ABSTRACT

Several ideas for implementing writing in the content areas are presented. The ideas, which were submitted by teachers and students, include: (1) a class called "Thinking-Writing" which uses freewriting, clustering, and written dialogue with an imaginary tutee; (2) a testimonial on the importance of knowing how to write in adult life; (3) a method for evaluating writing in the content areas; (4) a suggestion for having students write their own mathematics study guides; (5) a mathematics/science journal written and published by students; (6) a "think book" or journal in which students briefly summarize the previous class; and (7) a description of the writing-across-the-curriculum movement in colleges. Also included are definitions of think books, freewriting, and clustering. (DC)

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Great Teaching Ideas: Writing to Learn

BETH BOONE

Recently I asked a hundred or more college freshmen if they'd ever written to learn rather than to prove that they'd learned. None had. I asked the same group about computer experiences; most had a story to tell. To be truthful, I covet my friend's $5000 Osborne computer and word processor. I envy the twelve-year-old middle schoolers who can spout Apple-ese. I, too, snoop around Radio Shack trying to figure out what's what without annoying the salespeople. But my hunch is: There will be a computer in every classroom long before teachers decide to use writing in every classroom.

Six years ago Janet Emig wrote the article that reminded some of us and taught others of us that writing is the only way to let students use their hands and their eyes and their brains at the same time to learn. Arthur Applebee's study, *Writing in the Secondary School*, provides evidence of a different kind: Secondary school students spend forty-four percent of their time writing. Impressive. Until we realize that writing, for that study, was defined as any time the kids' pens or pencils met paper. Spelling tests, math problems, fill-in-the-blank worksheets, and notes copied from a blackboard all counted as writing. Only three percent of the students' time was spent writing anything as long as or longer than a paragraph, and most of that longer writing was assigned as a way to test knowledge. Students regurgitate the political, social, economic, and philosophical causes of the Reformation, the Civil War, and the Boxer Rebellion. Memorized steps necessary for analyzing a chemical solution become the basis of a science test paragraph. In English classes, students write to display their knowledge of proper paragraphing, essay etiquette, and grammar book niceties. In essence, Applebee's findings suggest that teachers do the thinking, planning, connecting, and composing; students fill in slots and flesh out lists for readers who already know the right answers.

James Moffett, James Britton, Donald Graves, Donald Murray, William Irmscher and Stephen Tchudi, as well as classroom teacher-researchers like Ann Wotring and Robert Tierney, have produced both the research and the practice that indicate youths can and do learn better when they write during the learning. Despite the evidence, few content area teachers are comfortable with the idea. Perhaps they are not yet acquainted with it. Thus, this column is for them. You, the language arts or English or reading teacher, will—I pray—be the delivery system.

One last thing: Those of us who think about, read about, and/or use writing to help our kids learn are at least semi-familiar with a number of terms. Like any field, writing to learn has already developed its own jargon. Here, then, are some loose definitions of the most popular writing-to-learn words.

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Think Books Ann Wotring may have been the first to redub the journal and call it a think book. In this book—which may be a loose-leaf notebook, a spiral-bound notebook, or stapled-together sheets—students think in writing about what they are learning. They may work an equation and make side comments about the process, the why's of the process, or the rules that help them evolve a solution. Science students may write out their feelings, questions, and hypotheses as well as the steps necessary for an experiment. No matter who uses a think book for what subject, it is a place to contemplate, make connections, and question. Ultimately, it may be the questions that are most important; the student who says, "I don't understand why Americans devalue education" is lots easier to teach than the one who says, "I don't understand what this American social problems class is about," or "I don't get this mess."

Freewriting Credit for this term should go to Peter Elbow, although other folks had a feel for the process as long as a century ago. The point is this: Freewriters write without stopping. They pay no attention to the editors and grammarians who sit in their heads, and they almost always discover something about the way they are feeling or thinking as they write. Freewriting is especially important in writing-to-learn situations because kids carry with them a built-in audience: the teacher. In order to think about what they're learning and to discover what they know and don't know, they need the freedom to write for themselves rather than a judgmental or all-knowing audience.

Clustering This one is easier to show than to tell about, but I'll try. It is the brainchild of the right-brain/left-brain proponents. According to the research, clustering lets the right brain (the imaginative, creative, free-wheeling side) take over. Students—or people with things to discover—write a general topic or phrase in the center of a page and then draw a circle around it. Whatever phrase or word or sentence pops into mind next is written down and circled, too. The circles—or semi-circles—are connected with lines. This process continues until the cluster's ideas are exhausted. I've clustered to find images for my poetry; my students cluster to find supporting details; and content area students cluster to remember or find out what they know and what they need to know.

What follows is a collection of ideas, suggestions, words of wisdom, and advice that people involved in learning have willingly shared.

A Class Called Thinking-Writing

I'm taking a class entitled "Thinking-Writing" at the Richmond Public Schools' Open High School. I signed up because it sounded like a course that would help me think and write better. First, the teachers asked us to adopt our most difficult other subject; mine is World Literature. Then, they showed us how to freewrite, cluster, and dialogue with an imaginary "tutee." The idea is that we try to teach the tutee and let him or her ask us questions in our think books. The other day I surprised myself. As I was writing to teach my tutee, Kim, I remembered all of a Greek myth that I had said I'd forgotten. At home, I use clustering to work out problems for my classes and to solve personal problems. It's too early to tell, but I believe writing will help me learn.

Robbie Ray, student
Open High School

What I Wish I'd Known Then

As a youth, I enjoyed and excelled in mathematics and science courses. I disliked English, grammar, and literature and learned the minimal amount to complete my twelve years of formal education. That information that I did learn, I tried to forget about ten seconds after completing my final exams. Why did I need that junk anyway?

Little did I know that my future would be full of technical writing. I am currently employed as an instructor, and I also help develop training materials. Learning—or re-learning—writing techniques that I should have learned several—well, about twenty—years ago has been a difficult process.

If the educational authorities of years ago had only integrated writing with the subjects I enjoyed such as math and science, I would be much happier and far more confident as I write these training materials. If anyone is reading this who may help to change the idea that writing happens only in English classes, please do so for our children and their futures.

Norm Stevens, Chesterfield Training Center
VEPCO

Evaluating Writing in the Content Area

"Writing in the content area? No way! I teach earth science.
I'm not taking on the English department's job."

Translated, this means either "I'm not taking writing assignments home to grade; I've got enough to do with quizzes, tests, and projects" or "I'm not grading writing; I can't remember where the commas go myself half the time."

Grading is the *bete noire* of the program. The objections are time or lack of competence or both. First of all, the non-English teaching faculty must be assured that they need not be concerned with grammar, structure, and all of the complexities of "good writing." Then at least one, and perhaps both, of these objections can be disposed of with a simple marking system like the following:

- **Use a Plus Sign to Indicate** — *I can see by your writing you understand the content of the lesson./I can see you have discovered what you don't know or at what point you're having trouble with the lesson.*
- **Use a Check Mark to Indicate** — *I can see by your writing that you are confused by the content of the lesson./I can see you are having some kind of problem with the lesson.*
- **Use a Minus Sign to Indicate** — *I can see by your writing you have not read the lesson./I can see you have not attempted to discover your problem with the lesson.*

Marking, then, is merely reading followed by an assessment of what all teachers can best evaluate: comprehension of their own subjects. And while this does not eliminate the time objection, the program will sell itself once the first few students say, "Hey, I think I know what I'm doing now."

Wilma Bell, Fairfield Middle School
Henrico County Public Schools

Rulesheets: Student-written Texts

I have always heard that the best proof of understanding an idea is found in the ability to write about it clearly; thus, I require my Algebra II/Trig students to write rulesheets periodically throughout the school year. Rulesheets are essentially summaries, in the students' own words, of procedures involved in solving problems.

Math books are notoriously difficult to read. Even the rare well-written math book will usually go unread because students still expect to be unable to understand it. Rulesheets, on the other hand, are written by the students themselves; therefore, rulesheets make excellent study guides for final exams or for later years when topics re-occur.

There are other benefits as well. If a student has misunderstood something, I will see it in his rulesheet and be able to help. In order to write rulesheet, the student must organize what he or she learns. For many students, this is the first time they have consciously been forced to look for patterns, to explain how and why things work, rather than just to do problems by rote.

Pam Clark, math teacher
JEB Stuart High School, Fairfax County Schools

About *Science, etc.*: Why Not Publish a Science/Math Journal?

When students write and draw colorful, amusing, informative material for their science and math classes, what do you do with it? As a mother, I put it in folders labeled "Erica" and "Matt" and filed it at home. As a social science teacher, I put it in folders labeled "I-Search," "Experiments," and "Surveys" and filed it at school. From time to time, I wondered how students' science and math work could be shared with other readers—our school's literary magazine couldn't incorporate it, I'd been told—and one evening last March, my wondering stopped. Quite suddenly, as I was reading the latest issue of *Science '83*, I realized that a school could publish a journal of science and math writing.

Who could I find to sponsor a project like that? Certainly not myself, because I didn't have any experience, never mind expertise, in journalism nor in publishing. Interest was all I had to offer, and how far could that take the project? Three months later I found out. The first edition of *Science, etc.* was printed and waiting to be distributed, and I was much wiser in the ways of journalism and publishing.

What happened during those three months was more natural than contrived. *Science, etc.* grew like a bean sprout in the dark because many of Herndon's science and math teachers already had writing and drawing projects as part of their curricula. Basically, all the journal required was organization. It also grew because so much enthusiasm spread through and beyond the students, parents, teachers, and administrators. If you would like some information on what we did to produce that first issue, drop me a card.

Ann Sevcik, psychology teacher
Herndon High School, Loudoun County Schools
700 Bennett St., Herndon, VA 22070

The Think Book: A Tool for Authentic Learning

Students can become appreciative apprentices of their own learning processes by using think books (or journals). Any content area teacher can focus students' attention by asking, for instance, for a three-minute "instant replay" freewrite which summarizes the previous class. "Station-break" writing (another term I've coined to compete with sports and T.V.) helps stragglers, reinforces

learning for those who are following the lesson, and—if shared with the class—reveals gaps in understanding. Finally, a class wrap-up might include a brainstorm period for "previews of coming attractions" which spark interest for subsequent lessons.

Other think book assignments might include the following:

**History students could record the observations of an historical event from the viewpoint of a famous participant, a person of their age who was there, or an inanimate but necessary object such as Lee's sword or Hancock's quill. Students who retell in their own words internalize more quickly the knowledge they receive.*

**Since most of science class involves observing, describing, and synthesizing, students can freewrite their impressions of anything from the northern star system to the universe in a drop of pond water. By recognizing familiar patterns in the unfamiliar, students make their own connections as their ancestors did when they gathered the stars in myths to give them meaning.*

**Math teachers might challenge students for explanations of theorems in paragraph form, suggest conversations with a negative one, or ask students to describe themselves as one of the geometric forms.*

Students who use think books become personally engaged in their own learning processes and retain what they have learned because they make the subject uniquely theirs. As James Moffett says, ". . . in making sense, the writer is making knowledge."

Michele Surat, Writing Consultant
Teacher of English and Religion
St. Gertrude High School, Richmond

Writing Across the Curriculum: What's Happening at Colleges?

Until recently, most college faculty conceived writing narrowly. Students wrote to prove and we graded to approve. Students wrote the traditional triad of test essays, book reviews, and term papers to prove that they knew the material; we then marked the papers to approve (or disapprove) of their efforts.

With the spread of writing across the curriculum movement, this situation is changing. Now students at colleges as different as VCU, VPISU, George Mason, University of Michigan, Montana State, the University of Pennsylvania, and Yale are finding themselves writing to learn—to discover, analyze, synthesize, and evaluate ideas. They are writing a variety of kinds of assignments—journals, free-writes in response to a class, summaries of assignments, simulated journal articles, case studies, to name a few—in a variety of programs: medical technology, public administration, interior design counseling, urban studies, foundations of education—as well as history, English, chemistry, and philosophy.

C. W. Griffin
Director, Center for Writing Across the Curriculum, VCU
Editor, *Teaching Writing in All Disciplines*

Beth Boone, an instructor in English at VCU, has edited this column for the past year and one-half. The new column editor is Sharon Harris, Supervisor of English for Albemarle County.